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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/697,819

10/31/2003

James B. Skov

CNXT-02CXT0049C

9523

54556 7590 01/31/2008
INTELLECTUAL PROPERTY DEVELOPMENT
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EXAMINER

SINGH, RAMNANDAN P

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

01/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Application No. 10/697,819	Applicant(s) SKOV ET AL.	
	Examiner Ramnandan Singh	Art Unit 2614	

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-20 is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____ |
|---|--|

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hershberger [US 7,158,573 B2].

Regarding claim 15, Hershberger discloses a system-side isolation controller, as shown in Fig. 6, comprising:

signal generator (150), wherein host 150 sends digital information for transmission [Fig. 1] ;

signal modulator capable of modulating a signal produced by the signal generator [col. 4, lines 54-67]; and

inbound data recovery unit capable of determining inbound data by sensing load modulations exhibited by a transformer (106) [Figs. 3A, 3B; col. 8, line 45 to col. 9, line 15; col. 10, line 57 to col. 11, line 25].

Regarding claim 16, Hershbarger further discloses the system-side isolation controller, comprising a transformer driver (626) capable of driving the transformer with the modulated signal [Fig. 6].

Regarding claim 17, Hershbarger discloses a line-side isolation controller, as shown in Fig. 9, comprising:

data extractor capable of extracting outbound data from a modulated signal received from a second side of a transformer (106) [col. 8, lines 4-37] ; and

transformer load modulator capable of modulating the load presented to the second side of the transformer according to inbound data [col. 9, lines 16-25; col. 11, line 54 to col. 13, line 10; col. 1, line 66 to col. 2, line 29] .

Regarding claim 18, Hershbarger further discloses the line-side isolation controller, wherein the data extractor comprises:

clock extractor (1302) capable of extracting a clock signal from a received modulated signal [Fig. 13]; and

sampling device capable of sampling the received modulated signal according to the extracted clock signal [col. 13, lines 11-58; col. 4, lines 38-53; col. 10, line 65 to col. 11, line 46].

Regarding claim 19, Hershbarger further discloses the line-side isolation controller, wherein the clock extractor comprises:

controllable oscillator (1408) capable of generating a clock according to a control signal [Fig. 14]; and comparator (1406) capable of generating the control signal by comparing transitions in a received modulated signal with transitions in the generated clock [Fig. 14; col. 13, lines 41-58].

Regarding claim 20, Hershbarger further discloses the line-side isolation controller:

digital-to-analog converter (910) capable of generating an analog signal according to extracted outbound data [Fig. 9];

analog gate capable of linearly imparting a first impedance element across a line circuit load according to the analog signal [Fig. 9];

analog-to-digital converter (908) capable of generating a digital value according the voltage present across the line circuit load; impedance element; and switch (1406) capable of attaching a second impedance element the second side of the transformer according to the digital value [Figs. 9, 14; col. 7, lines 26-35; col. 8, line 65 to col. 9, line 12; col. 13, line 40 to col. 14, line 22].

Regarding claim 1, Hershbarger discloses a method for conveying bidirectional (i.e. full-duplex) data over a transformer (106), comprising the steps of:

modulating an alternating current signal with outbound data [Figs. 1, 4-6; col. 4, lines 54-67];

driving a first side of the transformer with the modulated signal [Fig. 6; ; col. 11, lines 8-25];

receiving the modulated signal from a second side of the transformer; and extracting outbound data from the received modulated signal [col. 8, lines 4-37] ;

modulating according to inbound data the load presented to the second side of the transformer when the alternating current signal is not modulated [Fig. 6; col. 10, line 57 to col. 11, line 25]; and

receiving inbound data by sensing the load modulation [Figs. 3A, 3B; col. 8, line 45 to col. 9, line 15; col. 10, line 57 to col. 11, line 25].

Regarding claim 8 Hershberger discloses an apparatus for conveying bidirectional data across a galvanic barrier comprising:

signal generator (150), wherein host 150 sends digital information for transmission [Fig. 1] ;

signal modulator capable of modulating with outbound data a signal produced by the signal generator [col. 4, lines 54-67];

transformer (106) a first side capable of receiving a modulated signal from the signal modulator and a second side [Fig. 1]

data extractor capable of extracting outbound data from a modulated signal received from the second side of the transformer [col. 8, lines 4-37] ;

transformer load modulator capable of modulating the load on the second side of the transformer according to inbound data [col. 9, lines 16-25; col. 11, line 54 to col. 13, line 10; col. 1, line 66 to col. 2, line 29] ; and

inbound data recovery unit capable of determining inbound data by sensing load modulations induced by the transformer load modulator [Figs. 3A, 3B; col. 8, line 45 to col. 9, line 15; col. 10, line 57 to col. 11, line 25].

Regarding claim 10, Hershbarger further discloses the apparatus, wherein the data extractor comprises: clock extractor (1302) capable of extracting a clock from a received modulated signal [Fig. 13]; and sampling device capable of sampling the received modulated signal according to the extracted clock [col. 13, lines 11-58; col. 4, lines 38-53; col. 10, line 65 to col. 11, line 46].

Claim 3 is essentially similar to claim 10 and is rejected for the reasons stated above.

Regarding claim 11, Hershbarger further discloses the apparatus, wherein the clock extractor comprises: controllable oscillator (1408) capable of generating a clock according to a control signal [Fig. 14]; and comparator (1406) capable of generating the control signal by comparing

transitions in a received modulated signal with transitions in the generated clock [Fig. 14; col. 13, lines 41-58].

Claim 4 is essentially similar to claim 11 and is rejected for the reasons stated above.

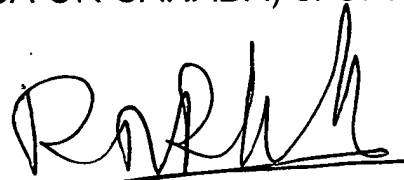
Regarding claims 2, 5-7, 9, 12-14, the limitations are shown above.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Ramnandan Singh', with a horizontal line drawn underneath the signature.

Ramnandan Singh
Primary Examiner
Art Unit 2614